

Exhibit A

Google translate

Translated to: English

Show original

Español Français 日本語 한국어 Português [Learn more](#)

Search International and National Patent Collections

WIPO



Search | Browse | Options | News | Help

Home | IP Services | PATENTSCOPE | Database Search

1. (EP0611568) Composition for enteral nutrition.

National Biblio Data Description Claims Documents

Note: Text based on automatic Optical Character Recognition processes.
Please use the PDF version for legal matters

English

Powered by Google Translate

Description

[0001] The present invention relates to preparations for enteral nutrition, especially for enteral feeding of oncological patients, the fat and any protein and / or carbohydrates and possibly other conventional nutrients, supplies, and or additives.

[0002] oncological patients have in common with them the common cachexia, physical weakness, anemia, and progressive weight loss is characterized by anorexia. These patients, a general failure, even with adequate energy and protein intake to prevent weight loss or gain weight back to.

[0003] The causes of cancer cachexia are often in a reduced food supply, coupled with dramatic changes in metabolism. These include impaired glucose utilization and increased gluconeogenic activity and the mobilization of body fat and increased fat oxidation rate. In tumor patients is therefore a healthy changes in the substrate utilization compared to before. In tumor patients is the preferred energy derived from fat. In contrast, the malignant tissue glucose mainly used for energy production. A fat utilization, it is virtually impossible to prove there. Hence the need for the cancer patients not only provide sufficient energy, but a food that the metabolism of the patient is matched, that is high in fat and low in carbohydrates, the. The cachexia is an essential feature of many cancer patients and are often the direct cause of death.

[0004] There have been numerous attempts to cancer patients suitable for the low-carb and high fat foods provide.

[0005] Thus, for example in EP patent application 0,378,824, the use of omega-3 fatty acids than Antikachexiemittel proposed to, eicosapentaenoic acid and docosahexaenoic acid than omega-3 fatty acids used are preferably wherein, expediently in the form of fish oil. The EP application proposed in diet is extremely low in carbohydrates and contains digestible protein only in a nutritionally necessary amount, with 88 percent of energy, protein, about 8 percent of energy from carbohydrates and about 3.8 percent of energy make up fat. In addition to omega-3 fatty acids (in the form of fish oil) is another form of digestible fat, preferably medium-chain fatty acids contained in.

[0006] eicosapentaenoic acid (EPA, C20: 5 n-3) is preferably substantially from other polyunsaturated fatty acids in the PCT application WO 90/11073 for the treatment of cachexia proposed free.

[0007] In EP Patent Application 0367724 are described immunostimulating preparations, the cancer patients are used to find and also arginine, Arginipräparaten and a source of nucleobases as well as Omega-3 and omega-6 fatty acids include ornithine. These products may be in the form of a complete liquid formula diet also be present, with a mixture of the fat content of 15-30 percent of energy, the carbohydrate content of 40-70 percent of energy and nitrogen source 15-30 percent of energy represents on. The fat component contains omega-3 and omega-6 fatty acids and MCT and / or LCT.

[0008] The commercial product Impact (®), which also is administered to cancer patients, it is a product for enteral nutrition by metabolic stress with sepsis risk. The fat content makes percent of energy, protein content 22 percent of energy and carbohydrate content of 53 energy percent of the product of 25, with the fat 2.2 percent of energy from linoleic acid, 3 percent of energy from omega-3 fatty acids, 5.5 percent of energy from MCT and 5.1 percent of energy from monounsaturated fats are found.

[0009] These known products have many disadvantages. In particular, using them for cancer patients does not ensure optimal nutrient utilization. Furthermore, the use of a too high fat content in preparation, for example according to EP patent application 0378824 regarding the diet of long-term patients, to which cancer patients are known to be unsuitable. Such drugs can metabolic disturbances, intolerance symptoms such as bloating, disorders of fat digestion, increased blood fat levels, and the like cause.

[0010] Therefore, there is still a need for suitable preparations for enteral nutrition, especially of cancer patients.

[0011] The present invention was therefore based on the task, a preparation for enteral nutrition, especially of oncological patients to provide the disadvantages of the known products and not as a food is, which is tolerated and the metabolism of cancer patients is better adapted than the previously known products.

[0012] According to the invention was surprisingly found that this problem can be solved with a preparation in which the fat component, the following fatty acid composition in weight percent based on total fatty acid content, comprising:

Oleic acid	30-55 wt.-%
Linoleic acid	20-30 wt.-%

alpha-linolenic acid	0.5 to 0 wt.-%
Eicosapentaenoic acid and docosahexaenoic acid together	1-10 wt.-%,
Other Omega-3 fatty acids	0 to 0.5 wt.-%

the ratio of omega-3 fatty acids to omega-6 fatty acids in the range of 1:2.1 to 1:3.

[0013] It was found that for cancer patients not only the quantity and the ratio of energy to each other is important but also the quality of the offered fat is of particular importance.

[0014] The present compositions preferably fatty acid pattern following using the information carried in weight percent and the total fatty acid content belong to:

Oléaure	37-50 wt.-%
Linoleic acid	5-15.-%
alpha-linolenic acid	0.8 to 5 wt.-%
Eicosapentaenoic acid and docosahexaenoic acid together	1.5 to 5 wt.-%,
Other Omega-3 fatty acids	0 to 0.3 wt.-%,

the ratio of omega-3 fatty acids to omega-6 fatty acids in the range of 1:2.3 to 1:2.7 is.

[0015] In particular, shows the invention applied grease the following fatty acid pattern, the information present in weight percent and the total fatty acid content belong to:

Oléaure	40-47 wt.-%
Linoleic acid	7-13 wt.-%
alpha-linolenic acid	1-2 wt.-%
Eicosapentaenoic acid and docosahexaenoic acid together	2 to 3.5 wt.-%,
Other Omega-3 fatty acids,	0 to 0.2 wt.-%,
preferably	0.1 to 0.2 wt.-%,

the ratio of omega-3 fatty acids to omega-6 fatty acids in the range of 1:2.3 to 1:2.7, preferably from 1:2.4 to 1:2.6 is.

[0016] The ratio of omega-3 fatty acids to omega-6 fatty acids is between 1:2.1 to 1:3, preferably 1:2.3 to 1:2.7 and in particular in the area from 1:2.4 to 1:2.6 and 1:2.5 is, for example. According to the invention to the omega-3 fatty acids alpha-linolenic acid, eicosapentaenoic acid, docosahexaenoic acid, and additional small amounts of oils present Omega-3 fatty acids calculated in, while the linoleic acid representative of the omega-6 fatty acids according to the application preparation is present as and the aforementioned ratio of omega-3 fatty acid is. The combined share of eicosapentaenoic acid and docosahexaenoic acid present in the preparation of the omega-3 fatty acids make up 80 percent by weight, preferably 50 to 70 weight percent and especially 55 to 60 weight percent, eg 58 weight percent of 40th

[0017] In the preparation of the invention, the fatty acids or in the form of esters or salts mentioned in his free. Examples of suitable esters are: glycerol ester, in the form of mono-, di- and / or triglycerides.

[0018] Examples of suitable salts are the sodium salts.

[0019] Suitably, the fatty acids in the form of suitable oils and / or structured lipids can be used. Thus, the oleic acid as monounsaturated fatty acid in the form of a vegetable oil that at least 75 weight percent oleic acid, for example olive oil or in the form of an oil with the same content of oleic acid hybrid-based, such as high oleic sunflower oil, hybrid-based, preferably in the form of oleic acid-rich sunflower oil, linoleic acid by a linoleic acid oil, at least 70 weight percent of linoleic acid, such as safflower oil, wheat germ oil, preferably in the form of safflower oil, alpha-linolenic acid by an oil containing at least 45 weight percent linoleic acid alpha, preferably linseed oil, and eicosapentaenoic acid and docosahexaenoic acid from fish oil containing 30 weight percent of omega-3 fatty acids at least, for example, fish oils such as sardine, salmon, anchovy, tuna, herring, hake, menhaden and / or pilchard, or mixtures of these fish oils, fish oil concentrates and fish oil emulsions with a content of at least 30 weight percent of omega-3 fatty acids, through a mixture of fish oils are a preferably introduced. Suitable fish oil emulsions such as DE-PS 37 22 540 are described in, for example.

[0020] The preparations of the invention contained in the fat component preferably also contains medium chain triglycerides (MCT). These fats are MCT, based on the total amount of fat, generally in amounts ranging from 10-60.-%, preferably in the range of 20-50 wt.-%, especially in the range of 30-40 wt.-% before.

[0021] The present compositions can be administered such as, for example, filled in gelatin capsules, or can be used as such or optionally packaged in gelatin capsules as a dietary additive used to complete formula diet or can be formulated as well. You can be a balanced diet and appropriate manner, preferably and / or tube feeding to be used as drinking.

[0022] In a preferred embodiment makes in the novel preparations for enteral nutrition, the fat component 40-65 percent of energy, 45 to 60 percent of energy and in particular 50 percent of energy from preferably while the protein component to 12 to 25 energy percent, preferably 15 to 22 energy percent, and in particular 18 percent of energy and carbohydrate component 20 to 45 percent of energy, preferably 25 to 40 percent of energy and particularly 32 percent of energy can be contained in the preparations.

[0023] The present compositions can be in solid or liquid form, preferably liquid form and particularly in the form of drinking water and food present in the probe. Solid forms can suitably with an appropriate amount of water are mixed for application.

[0024] "fixed forms" include, according to the invention also those preparations in which one or more elements in solid form, eg powder is present as a present and, as a component, such as the fat component or components in liquid form, eg, filled several in appropriate containers such as plastic or glass or in gelatin capsules, available from.

[0025] As a protein component, all proteins that these purposes are used for usually suitable, preferably native proteins or hydrolyzed forms of milk, pea or soy protein, for example, sodium, potassium, calcium or Magnesiumcaseinat, whey protein hydrolyzate, soy protein hydrolyzate Erbsenproteinhydrolysat, casein, skimmed milk powder, whole milk protein, protein-RNA from yeast and the like, and preferably, especially when protein hydrolyzate, sodium caseinate and / or protein from yeast RNA used also.

[0026] As each component is suitable carbohydrate normally present purposes is suitable for carbohydrate component. For example, usable are maltodextrins, glucose, sucrose, fructose, xylitol, starch, modified starch or those carbohydrates containing foods such as fruit powder and vegetable powder, such as banana powder, pea powder, potato powder, etc., cereals, as rice flakes, oat flour. Those used preferably maltodextrin, modified starch and oat flour.

[0027] Both the carbohydrates and the proteins may take the form of mixtures of several carbohydrates and proteins are used or individually.

[0028] In addition to the basic components of fat and possibly protein and carbohydrates and, where appropriate, water can, inventive preparations, other conventional nutrients, and, where appropriate, customary auxiliaries and additives are in the.

[0029] At the usual nutrients that can be included, where appropriate, include: vitamins, minerals, trace minerals, nucleotides, free amino acids, peptides as well as special fiber.

[0030] Examples of nucleotides, the inventive preparations can be added are customary for this purpose as appropriate nucleotides from yeast RNA.

[0031] As suitable vitamins are all the vitamins and vitamin-like compounds, as they are used for the present purposes generally.

[0032] Examples of suitable vitamins and vitamin-like compounds are vitamin A, vitamin D, vitamin E, vitamin K, vitamin B₁, B₂, B₆ and B₁₂, vitamin C, niacin, pantothenic acid, biotin, folic acid, myo-inositol, choline and the like.

[0033] The inventive preparations minerals can be used all the minerals in how they are used for the present purposes generally. Examples of suitable minerals phosphorus, sodium, potassium, calcium, magnesium, chloride.

[0034] Among the trace elements, as preparations can be included in the invention, including all commonly used for the present purposes, trace elements such as iron, zinc, copper, manganese, chromium, molybdenum, fluoride, iodine, selenium.

[0035] suitable fiber than for the human nutrition standard fiber, such as soy polysaccharides, fiber from chicory, salsify, Jerusalem artichokes, brans (eg wheat bran of cereals and pulses), guar gum, pectin, vegetable powder, fruit powder, grain powder and / or cellulose.

[0036] These additives may, in the inventive preparations such preparations usually used in amounts mentioned are in. For example, suitable amounts are such as are proposed in literature (see "Rules for a balanced diet in the dietary regulation, act breadwinner. 15 (1990), p. 12, German Society for Nutrition recommendations for nutrient intake," fifth revision in 1991, RDA, 10th edition, 1989).

[0037] In addition to the above to these nutrients, the inventive preparations, even if appropriate, customary auxiliaries and additives are in the, including all standard, for present purposes, suitable excipients and additives, such as flavoring agents, dyes, stabilizers, emulsifiers, antioxidants, sweeteners and the like.

[0038] The inventive preparations is in itself a known manner.

[0039] The novel food products are the combination of a high fat offering with a special fat component, the specific fatty acid pattern and the specific ratio of omega-3 fatty acids to omega-6 fatty acids indicated by the, the specific metabolic rates of cancer patients aimed at.

[0040] The present compositions contain an optimal nutrient composition for cancer patients both in terms of energy supply to the patients and to support its defense system and are also well tolerated. In particular, they are suitable for cancer patients, in which a long-term nutrition is often required. The inventive preparations for enteral nutrition to patients, particularly cancer patients, once-fat diet offered (focused on the increased fat needs of patients) and, second, possible intolerance symptoms largely eliminated and with the invention applied fatty acid composition, the immune system of cancer patients in an ideal supported in that view to a long-term nutrition without adverse side effects.

[0041] The following examples further illustrate the present invention.

[0042] The examples used in fish oil containing at least 30 wt.-% eicosapentaenoic acid and docosahexaenoic acid.

Example 1

[0043] For the following fat ingredients was simply mixing these ingredients, an inventive preparation for enteral nutrition products manufactured by:

Fish Oil	6,5 g
Linseed oil	2,0 g
high oleic sunflower oil	37,0 g
Safflower	4,0 g
mittelkettige Triglycerides	22,7 g

[0044] The amount of fat (72.2 g) correspond to 68.6 g of fatty acids. The product thus produced had the following fatty acid composition according to (g Fettsäure/100 g total fatty acid) to:

Ölsäure	41,5 g
Linoleic acid	10,5 g

alpha-linolenic acid	1,6 g
Eicosapentaenoic acid	1,6 g
Docosahexaenoic acid	0,8 g
Other Omega-3 fatty acids	0,2 g

[0045] The ratio of omega-3 fatty acids to omega-6 fatty acids was 1:2.5.

Besides the above-mentioned fatty acids, which are characteristic of the fatty acid composition of the inventive preparation, in the preparation of the invention, the following fatty acids are included:

Medium-chain fatty acids:

[0046]	
Caprylsäure	17,6 g
Caprinsäure	11,6 g

Long-chain fatty acids:

[0047]	
Palmitic	3,7 g
Stearinsäure	1,8 g
Other fatty acids	9,0 g

[0048] The invention thus prepared product can be administered such as, for example in the form of gelatin capsules, or is added to food components for the manufacture of dietetic foods, such as drinking and tube feeding, especially for cancer patients as appropriate.

Example 2

[0049] The compound prepared in Example 1 (72.2 g fat, corresponding to 68.6 g fatty acids) was used to prepare 1000 ml of another inventive preparation for enteral nutrition with the following additional ingredients mixed one:

Protein component:

[0050]	
Sodium caseinate	corresponding to 40.5 g protein
Yeast RNA	corresponding to 8.0 g protein
Molkenproteinhydrolysat	corresponding to 10.0 g protein

Carbohydrate component:

[0051]	
Maltodextrin	corresponding to 104.0 g carbohydrate

Fibre:

[0052]	
Sojapolysaccharide	corresponding to 13.0 g of ballast.
Water (demineralized)	800 ml

Vitamins and minerals:

[0053]

Vitamin D ₃ -dried powder (100.000IE / g)	4,05 mg
Biotin	0,176 mg
Folic Acid	0,40 mg
Thiaminhydrochlorid (B ₁)	2,84 mg
Riboflavin 5 Phosphat Na 2H ₂ O (B ₂)	4,32 mg
Pyridoxinhydrochlorid (Vit. B ₆)	3,105 mg
Vitamin-B ₁₂ -lactone-Verreib. 0, 5%	1,62 mg
Nicotinamide	15,19 mg
Calcium-D-pantothenat	13,2 mg
L-Ascorbinsäure (Vitamin C)	350 mg
Vitamin A-palmitat (1.7 MioIE / g)	6,27 mg
Vitamin K ₁	133.3 mg
DL-alpha-Tocopherolacetat	50,3 mg
tri-Calciumphosphat	0,05 g
Calcium carbonate	1,21 g
Magnesiumchlorid (6H ₂ O)	0,74 g
Magnesium oxide	0,17 g
Potassium chloride	1,48 g
Kaliumcitrat tri-(1 H ₂ O)	2,1 g
Sodium chloride	0,69 g
Natriumcitrat tri-(1 H ₂ O)	1,36 g
Eisen-III-pyrophosphat (9H ₂ O)	47 mg
Zink-II-sulfat (7H ₂ O)	22,2 mg
Mangan-II-chloride (4H ₂ O)	6,5 mg
Cupric sulfate	5,577 mg
Kaliumjodid	145 mg
Chrom-III-chlorid (6H ₂ O)	563.7 mg
Sodium (2H ₂ O)	277.4 mg
Natriumfluorid	3,242 mg
Citric acid anhydrous crystal	0,7 g
myo-Inosit	160 mg
Cholinchlorid	0,36 g

[0054] In the thus prepared preparation that an energy density of 1.3 kcal/ml had / made fat component 50% energy, protein energy component 18% and the carbohydrate component 32% of the energy.

[0055] The inventive preparation is for use as a dietary supplement, such as drinking water and food probe, especially suitable for cancer patients.

Example 3

[0056] For the following fat ingredients mixing was an inventive preparation for enteral nutrition products manufactured by:

Fish Oil	6,5 g
Linseed oil	1,9 g
high oleic sunflower oil	37,0 g
Safforöl	4,3 g
mittelkettige Triglycerides	22,5 g

[0057] The amount of fat (72.2 g) corresponded to 68.6 g of fatty acids. The resulting product was in accordance with the following fatty acid composition (g Fettsäure/100 g total fatty acids):

Ölsäure	41,4 g
Linoleic acid	10,2 g
alpha-linolenic acid	1,6 g
Eicosapentaenoic acid	1,6 g
Docosahexaenoic acid	0,8 g
Other Omega-3 fatty acids	0,2 g

[0058] The ratio of omega-3 fatty acids to omega-6 fatty acids was 1:2,45. In addition to the above-mentioned fatty acids or fatty acid composition showed the following fatty acids on:

Medium-chain fatty acids:

[0059]	
Caprylsäure	17,9 g
Caprinsäure	11,7 g

Long-chain fatty acids:

[0060]	
Palmitic	3,7 g
Stearinsäure	1,8 g
Other fatty acids	9,1 g

[0061] The thus prepared product can enterally to be administered drug used to be as direct, filled for example in gelatin capsules, or can be used as an additive to other food components for the production of other enterally administered dietary foods, such as drinking and tube feeding, especially for cancer patients used be.

Example 4

[0062] For the preparation of another inventive preparation of Example 2 was repeated except that preparation of Example 1, the product produced in Example 3 (72.2 g fat corresponding to 68.6 g fatty acid) was used instead of.

[0063] The nutrient ratio was: fat 50% energy, protein 18% energy and carbohydrates 32 Energy kcal / ml)% 1000 per ml (the energy content was 1.3.

[0064] The invention thus prepared product is used as a dietary supplement, such as drinking and tube feeding, especially for cancer patients suitable for.

Example 5

[0065] For the following fat ingredients mixing was an inventive preparation for enteral nutrition products manufactured by:

Fish Oil	6,5 g
Linseed oil	1,9 g
high oleic sunflower oil	37,0 g
Safforöl	4,75 g
mittelkettige Triglycerides	22,0 g

[0066] The amount of fat (72.15 g fat) or 68.55 g of fatty acids. The product thus produced had the following fatty acid composition according to (given in g fatty acid per 100 g total fatty acids) to:

Ölsäure	41,6 g
Linoleic acid	10,6 g

alpha-linolenic acid	1,6 g
Eicosapentaenoic acid	1,6 g
Docosahexaensäure	0,8 g
Other Omega-3 fatty acids	0,2 g

[0067] The ratio of omega-3 fatty acids to omega-6 fatty acids was 1:2,55. In addition to the above-mentioned fatty acids or fatty acid composition showed the following fatty acids on:

Medium-chain fatty acids:

[0068]	
Caprylsäure	17,6 g
Caprinsäure	11,4 g

Long-chain fatty acids:

[0069]	
Palmitic	3,8 g
Stearinsäure	1,8 g
Other fatty acids	9,0 g

[0070] This product can be used as preparation for enteral nutrition, eg in gelatin capsules, as well as an additive to other food components for the manufacture of dietetic foods, such as drinking and tube feeding, especially for cancer patients, are used as bottled.

Example 6

[0071] To prepare 1000 ml of a further preparation for enteral nutrition were the same components as in Figure 2 describes the sample used, except that instead of 72.2 g of the preparation of Example 1 (corresponding to 68.6 g fat) 72 , 15 g of the 5 prepared specimen (corresponding to 68.55 g fatty acid) were used in example.

[0072] The nutrient ratio of the thus prepared preparation was as follows:

Fat 50% energy
Protein 18% energy
Carbohydrate 32 energy%,
where the energy content was 1.3 kcal per ml.

[0073] The thus prepared product is used as a dietary supplement, such as drinking and tube feeding, especially for cancer patients suitable for.

Example 7

[0074] For the following fat components was mixing these ingredients, an inventive preparation for enteral nutrition products manufactured by:

Fish Oil	6,5 g
Linseed oil	1,9 g
high oleic sunflower oil	44,5 g
Safforöl	1,8 g
mittelkettige Triglycerides	32,0 g

[0075] The amount of fat (86.7 g) or 82.4 g of fatty acids.

[0076] The thus prepared according to preparation had the following fatty acid pattern (indicated in g fatty acid per 100 g total fatty acids):

Ölsäure	40,7 g
Linoleic acid	7,3 g
alpha-linolenic acid	1,3 g
Eicosapentaenoic acid	1,3 g

Docosahexaenoic acid.....	0,7 g
Other Omega-3 fatty acids	0,1 g

[0077] The ratio of omega-3 fatty acids to omega-6 fatty acids was 1:2,15. In addition to the above-mentioned fatty acids include the fatty acid composition of this preparation nor the following fatty acids:

Medium-chain fatty acids:

[0078]	
Caprylsäure	21,2 g
Caprinsäure	13,8 g

Long-chain fatty acids:

[0079]	
Palmitic	3,3 g
Stearinsäure	1,7 g
Other fatty acids	8,6 g

[0080] The prepared specimen was used for direct use as preparation for enteral nutrition, eg filled into gelatin capsules, or as a supplement to other food components for the manufacture of dietetic foods, such as drinking and tube feeding, especially for cancer patients, are suitable.

Example 8

[0081] The compound prepared in Example 7 (86.7 g fat, the fatty acids correspond to 82.4 g) was used to prepare 1000 ml of another inventive preparation for enteral nutrition with the following additional ingredients mixed one:

Protein component:

[0082]	
Sodium caseinate	acc. 33.8 g protein
Yeast RNA	acc. 8 g protein
Sojaproteinhydrolysat	corresponding to 7 g protein

Carbohydrate component:

[0083]	
Modified starch	corresponding to 81 g carbohydrate
Fiber from chicory	corresponding to 13 g of ballast.
Water	800 ml

Vitamins and minerals:

[0084] The vitamins and minerals are in compounds such as Example 2 below, are in and in such amounts, constitute the finished product in the following concentrations were present in:

Sodium	2000 mg
Potassium	1670 mg
Chloride	1530 mg
Calcium	1000 mg
Phosphorus	800 mg

Magnesium	270 mg
Requirements	13 mg
Zinc	17 mg
Copper	2 mg
Mangan	2 mg
Iodide	133 mg
Chrome	100 micrograms
Molybdenum	100 micrograms
Fluoride	1,3 mg
Vitamin A / Retinol-Äquivalente	0,2 mg
Vitamin D/Cholecalciferol	6,7 mg
Vitamin E /-Tocopherol Äquivalente	26,7 mg
Vitamin K ₁	66,7 mg
Vitamin B ₁	1,5 mg
Vitamin B ₂	1,7 mg
Nicotinamide	1,2 mg
Vitamin B ₆	1,6 mg
Vitamin B ₁₂	4 mg
Pantothenic acid	8 mg
Biotin	13,3 mg
Folic Acid	0,3 mg
Vitamin C	8,0 mg
myo-Inosit	160 mg
Choline	26,7 mg

[0085] The thus prepared product had the following nutrient ratio: 60 energy-% fat, protein and carbohydrates, 15 energy-25 energy-% ml., the energy content was 1.3 kcal.

[0086] The preparation was thus prepared for use as a dietary supplement, especially for cancer patients, as well as drinking as food suitable as a probe.

Example 9

[0087] For the following fat ingredients mixing was an inventive preparation for enteral nutrition products manufactured by:

Fish Oil	6,5 g
Linseed oil	1,9 g
high oleic sunflower oil	44,0 g
Safforöl	5,6 g
mittelkettige Triglycerides	28,6 g

[0088] The amount of fat (86.6 g) corresponded to 82.3 g of fatty acids. In accordance with the above-used fat was found for the novel preparation, the following fatty acid composition (g fatty acid per 100 g total fatty acids):

Ölsäure	40,7 g
Linoleic acid	10,4 g
alpha-linolenic acid	1,3 g
Eicosapentaenoic acid	1,3 g
Docosahexaenoic acid	0,7 g
Other Omega-3 fatty acids	0,2 g

[0089] The ratio of omega-3 fatty acids to omega-6 fatty acids was 1:2.97.

[0090] In addition to the above-mentioned fatty acids containing the fatty acid composition of the specimen prepared above nor the following

acids:

Medium-chain fatty acids:

[0091]

Caprylsäure	19,0 g
Caprinsäure	12,4 g

Long-chain fatty acids:

[0092]

Palmitic	3,5 g
Stearinsäure	1,8 g
Other fatty acids	8,7 g

[0093] The above-prepared product was enteral nutrition, as such, be administered to both, filled for example in gelatin capsules, also added to other food components for the manufacture of dietetic foods, such as drinking and tube feeding, especially for cancer patients, may be used as

Example 10

[0094] To prepare 1000 ml of a further inventive preparation for enteral nutrition, the preparation produced in Example 9 (86.6 g fat, corresponding to 82.3 g fatty acids) with the same further ingredients as Example 8 uses were in accordance and in this example, the indicated amounts of these ingredients are mixed into.

[0095] The thus prepared product had the following nutrient ratio: 60 energy% fat, 15 energy% protein, carbohydrate 25 energy%. The energy content was 1.3 kcal / ml.

[0096] Preparation of example, it was as food as well as dietary and drinking tube feeding for patients, especially cancer patients, are used as the.

Example 11

[0097] For the following fat ingredients mixing was another inventive preparation for enteral nutrition products manufactured by:

Fish Oil	6,5 g
Linseed oil	1,9 g
high oleic sunflower oil	37,0 g
Safforöl	3,7 g
mittelkettige Triglycerides	15,9 g

[0098] The amount of fat (65 g) or 61.75 g of fatty acids.

[0099] The fatty acid composition of the thus prepared preparation was as follows (g fatty acid per 100 g total fatty acids):

Olisäure	46,0 g
Linoleic acid	10,6 g
alpha-linolenic acid	1,8 g
Eicosapentaenoic acid	1,8 g
Docosahexaenoic acid	0,9 g
Other Omega-3 fatty acids	0,1 g

[0100] The ratio of omega-3 fatty acids to omega-6 fatty acids was 1:2.3. In addition to the above-mentioned fatty acids comprised the fatty acid composition of this preparation, the following fatty acids:

Medium-chain fatty acids:

[0101]

Caprylsäure	14,0 g
Caprinsäure	9,2 g

Long-chain fatty acids:

[0102]

Palmitic	4,1 g
Stearinsäure	2,0 g
Other fatty acids	9,5 g

[0103] This preparation was as such for the administration to patients, especially cancer patients, for example, filled gelatin capsules, and as an additive to other food components for the manufacture of dietetic foods, such as drinking water and special food for cancer patients suitable.

Example 12

[0104] Using the preparation prepared in Example 11 (65 g fat, corresponding to 61.75 g fatty acids) were prepared by simply mixing the following components 1000 of a novel preparation for enteral nutrition produced ml:

Protein component:

[0105]

Sodium caseinate	corresponding to 42 g protein
Yeast RNA	corresponding to 8 g protein
Molkenproteinhydrolysat	corresponding to 15.0 g protein

Carbohydrate component:

[0106]

Maltodextrin and oat flour	entspr. 114 g carbohydrate
----------------------------	----------------------------

Fibre:

[0107]

Mixture of oats, rye and wheat flakes and wheat bran corresponding	13 g Ballastst.
Water	800 ml

Vitamins and minerals:

[0108] The vitamins and minerals are the same type and in the same amounts used in, as they were illustrated in 8 uses.

[0109] The preparation showed the following nutrient ratio: 45 energy% fat, protein, 20 energy%, carbohydrate 35 energy%, the energy content per ml was 1.3 kcal.

[0110] The above preparation was prepared as a dietary supplement, as well as Trinkals well as special food for cancer patients particularly suitable.

Example 13

[0111] To prepare 1000 ml of a further inventive preparation for enteral nutrition have been mixed together the following ingredients:

Fat component:

[0112]	
Fish Oil	6,5 g
Linseed oil	1,9 g
high oleic sunflower oil	37,0 g
Safforöl	5,4 g
mittelkettige Triglycerides	14,2 g
(Sum of the fat used 65 g, corresponding to 61.75 g fatty acids).	

Protein component:

[0113]	
Sodium caseinate	corresponding to 42 g protein
Yeast RNA	corresponding to 8 g protein
Molkenproteinhydrolysat	corresponding to 15.0 g protein

Carbohydrate component:

[0114]	
Maltodextrin and oat flour	corresponding to 114 g carbohydrate

Fibre:

[0115]	
Mixture of oats, rye and wheat flakes and wheat bran corresponding	13 g Ballastst.
Water	800 ml

Vitamins and minerals:

[0116] The use of vitamins and minerals characterized as in Example 12 used vitamins and minerals in the amounts specified therein.

[0117] The thus prepared product had the following fatty acid composition (g fatty acid per 100 g total fatty acids):

Oläure	46,3 g
Linoleic acid	12,5 g
alpha-linolenic acid	1,8 g
Eicosapentaenoic acid	1,8 g
Docosahexaenoic acid	0,9 g
Other Omega-3 fatty acids	0,2 g

[0118] The ratio of omega-3 fatty acids to omega-6 fatty acids was 1:2.66. In addition to the above-mentioned fatty acids containing the fatty acid composition of the prepared specimen still following fatty acids:

Medium-chain fatty acids:

[0119]	
Caprylsäure	12,5 g
Caprinsäure	8,2 g

Long-chain fatty acids:

[0120]

Palmitic	4,2 g
Stearinsäure	2,0 g
Other fatty acids	9,8 g

[0121] The product produced had the following nutrient ratio: 45 energy% fat, protein, 20 energy%, carbohydrate 35 energy%, for which the energy content was 1.3 kcal per ml.

[0122] The preparation was prepared for use as a dietary supplement, especially for cancer patients, for example, both for drinking as well as special food suitable.

Example 14

[0123] For the following fat ingredients mixing was another inventive preparation for enteral nutrition products manufactured by:

Fish Oil	7,7 g
Linseed oil	1,1 g
high oleic sunflower oil	3,7 g
Safforöl	36,5 g
mittelkettige Triglycerides	18,2 g

[0124] The amount of fat (67.2 g fat) or 63.8 g of fatty acids.

[0125] The thus prepared product had the following fatty acid composition (g fatty acid per 100 g total fatty acids) to:

Oläure	43,7 g
Linoleic acid	10 g
alpha-linolenic acid	1,1 g
Eicosapentaenoic acid	2,0 g
Docosahexaenoic acid	1,0 g
Other Omega-3 fatty acids	0,2 g

[0126] The ratio of omega-3 fatty acids to omega-6 fatty acid was 1.2.3. In addition to the above-mentioned fatty acids comprised the fatty acid composition of the prepared specimen, the following fatty acids:

Medium-chain fatty acids:**[0127]**

Caprylsäure	15,6 g
Caprinsäure	10,2 g

Long-chain fatty acids:**[0128]**

Palmitic	4,1 g
Stearinsäure	1,9 g
Other fatty acids	10,2 g

[0129] This preparation was as such for the administration to patients, especially cancer patients, for example, filled gelatin capsules, and as an additive to other food components for the manufacture of dietetic foods, such as drinking water and special food for cancer patients suitable.

Example 15

[0130] Using the preparation prepared in Example 14 (67.2 g fat, corresponding to 63.8 g fatty acids) were prepared by simply mixing the following components 1000 of a novel preparation for enteral nutrition produced ml:

Protein component:

[0131]

Sodium caseinate	corresponding to 39 g protein
Yeast RNA	corresponding to 8 g protein
Molkenproteinhydrolysat	corresponding to 8 g protein

Carbohydrate component:

[0132]

Maltodextrin	corresponding to 69 g carbohydrate
--------------	------------------------------------

Fibre:

[0133]

Fiber from chicory	corresponding to 13 g of ballast.
Water	800 ml

Vitamins and minerals:

[0134] The vitamins and minerals are in compounds, as they were shown two example and in such amounts, constitute the finished product in the following concentrations were present in:

Sodium	750 mg
Potassium	1250 mg
Chloride	1150 mg
Calcium	750 mg
Phosphorus	600 mg
Magnesium	200 mg
Requirements	10 mg
Zinc	7,5 mg
Copper	1,0 mg
Mangan	1,5 mg
Iodide	100 micrograms
Chrome	75 micrograms
Molybdenum	150 micrograms
Vitamin A	0,6 mg
Vitamin D	5 mg
Vitamin E	10 mg
Vitamin K ₁	50 mg
Vitamin B ₁	1,1 mg
Vitamin B ₂	1,3 mg
Nicotinamide	9 mg
Vitamin B ₆	1,2 mg
Vitamin B ₁₂	3 mg
Pantothenic acid	6 mg
Folic Acid	0,2 mg

Vitamin C	50 mg
myo-Inositol	120 mg

[0135] The thus prepared product had the following nutrient relation:

55 energy percent fat, protein and carbohydrates, 20 energy percent 25 percent of energy, the energy content was 1.1 kcal / ml.

[0136] The preparation was as a dietary supplement, as well as drinking as a special food especially for cancer patients as appropriate.

Example 16

[0137] For the following fat ingredients mixing was another inventive preparation for enteral nutrition products manufactured by:

Fish Oil	6,4 g
Linseed oil	2,7 g
high oleic sunflower oil	65,0 g
Safforöl	2,65 g
Mittelkettige Troglyceride	36,6 g

[0138] The amount of fat (113.35 g fat) or 107.68 g fatty acids.

[0139] The fatty acid composition of the thus prepared preparation was as follows (g fatty acid per 100 g total fatty acids):

Ölsäure	45,3 g
Linoleic acid	8,1 g
alpha-linolenic acid	1,4 g
Eicosapentaenoic acid	1,0 g
Docosahexaenoic acid	0,5 g
Other Omega-3 fatty acids	0,1 g

[0140] The ratio of omega-3 fatty acids to omega-6 fatty acids was 1:2.7. In addition to the above-mentioned fatty acids comprised the fatty acid composition of this preparation, the following fatty acids:

Medium-chain fatty acids:

[0141]	
Caprylsäure	18,6 g
Caprinsäure	12,2 g

Long-chain fatty acids:

[0142]	
Palmitic	3,3 g
Stearinsäure	1,8 g
Other fatty acids	7,7 g

[0143] The thus prepared specimen was as such for the administration to patients, especially cancer patients, for example, filled gelatin capsules, and as an additive to other food components for the manufacture of dietetic foods, such as drinking water and special food for cancer patients suitable.

Example 17

[0144] Using the preparation prepared in Example 16 (113.35 g fat, corresponding to 107.68 g fatty acids) were prepared by simply mixing the following components 1000 of a novel preparation for enteral nutrition produced ml:

Protein component:

[0145]

Sodium caseinate	corresponding to 46 g protein
Yeast RNA	corresponding to 8 g protein
Molkenproteinhydrolysat	corresponding to 14 g protein

Carbohydrate component:**[0146]**

Maltodextrin	corresponding to 102 g carbohydrate
Water	720 ml

Vitamins and minerals:

[0147] The vitamins and minerals in compounds, as in Example 2 below, are applied and in such quantities that they the finished product in the following concentrations were present in:

Sodium	1000 mg
Potassium	2000 mg
Chloride	1530 mg
Calcium	670 mg
Phosphorus	670 mg
Magnesium	270 mg
Requirements	13 mg
Zinc	10 mg
Copper	1,3 mg
Mangan	2,7 mg
Iodide	100 micrograms
Chrom	100 micrograms
Molybdenum	100 micrograms
Vitamin A	0,8 mg
Vitamin D	7 mg
Vitamin E	11 mg
Vitamin K ₁	100 micrograms
Vitamin B ₁	1,5 mg
Vitamin B ₂	1,7 mg
Nicotinamide	12 mg
Vitamin B ₆	1,6 mg
Vitamin B ₁₂	4 mg
Pantothenic acid	8 mg
Biotin	130 mg
Folic Acid	270 mg
Vitamin C	60 mg
myo-Inosit	160 mg
Choline	267 mg

[0148] The nutrient ratio of the prepared specimen was as follows: fat 60 percent of energy, protein 16 percent of energy, carbohydrates, 24 percent of energy, the energy content per ml was 1.7 kcal / ml.

[0149] The preparation was thus prepared as a dietary supplement, as well as drinking as a special food especially for cancer patients as appropriate.

